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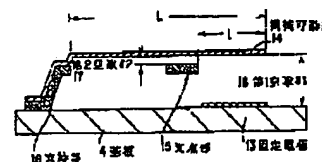
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(54) ELECTROSTATIC ACTUATOR, ACTUATOR ARRAY, OPTICAL DEFLECTOR AND INFORMATION PROCESSOR PROVIDE WITH THE ELECTROSTATIC ACTUATOR

(57)Abstract:

PURPOSE: To provide an electrostatic actuator whose dependence on the displacement (or displacing angle) and a voltage is almost linear and capable of setting a wide dynamic range.

CONSTITUTION: A mechanically movable part 14 is provided on a substrate 4 provided with a fixed electrode 13 by means of a supporting part 18 through a first air gap 16 and a fulcrum part 15 as the varying means is arranged on the lower part of the mechanically movable part 14 through a second air gap 17. The mechanically movable part 14 is composed of electrically conductive thin film and has the property of a spring. When a voltage is applied across the mechanically movable part 14 and the fixed electrode 13 through the supporting part 18, the mechanically movable part 14 is displaced toward the substrate 4. By increasing the applied voltage, the mechanically movable part 14 is further deformed, brought into contact with the end surface (upper surface) of the fulcrum part 15 and deformed while being supported at the contact position. Namely, the effective length of spring of the mechanically movable part 14 is L under a low voltage, the effective length of spring is shortened to be (1) under the voltage larger than the voltage on which the mechanically movable part 14 is brought into contact with the fulcrum part 15 and the spring constant is changed so as to become larger.



## LEGAL STATUS

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